

REMARKS

The Office Action dated December 6, 2007 has been received and carefully studied.

The Examiner objects to claims 4-15 as being improper multiple dependent claims. By the accompanying amendment, this informality has been eliminated.

The Examiner rejects claims 1-3 under 35 U.S.C. §103(a) as being unpatentable over Kitamura et al., U.S. Publication No. 2002/0176046. The Examiner states that Kitamura et al. disclose a sealant for liquid crystal displays that comprise 15-84% liquid epoxy resin by weight, a photocuring agent, and inorganic particles of diameter 3 μm or less. The Examiner also states that Kitamura et al. disclose that the photocuring liquid crystal sealant composition includes a poly(meth)acrylate compound, and a composition containing an epoxy resin with epoxy groups such as hydroquinone polyglycidyl ether and resorcinol polyglycidyl ether. The Examiner considers that it would have been obvious to combine the acrylic and epoxy elements of Kitamura et al. to produce an alternative liquid crystal sealant.

By the accompanying amendment, claim 1 has been amended to specify that the photoinitiator is a radical photopolymerization photoinitiator. Claim 5, rendered redundant by the amendment, has been cancelled.

Kitamura et al. disclose that a sealant composition for a plastic liquid crystal display cell may contain, as the ingredients thereof, 15 to 84% by weight of a liquid epoxy resin (refer to claim 3 and paragraphs [0101]-[0184]), a photoinitiator

(refer to paragraph [0362]), and inorganic fillers having an average diameter of 3 μm or less (refer to paragraphs [0265]-[0337]). Further, Kitamura exemplifies as the liquid epoxy resin a hydroquinone type polyglycidyl ether compound and a resorcinol type polyglycidyl ether compound (refer to paragraph [0124]). However, the sealant composition of Kitamura is different from the claimed sealant in that the former contains as the epoxy resin a hydroquinone type polyglycidyl ether compound or a resorcinol type polyglycidyl ether compound itself, while the latter contains a (meth)acrylate of hydroquinone polyglycidyl ether or resorcinol polyglycidyl ether. In addition, Kitamura does not specify the photoinitiator, whereas the instant claims now recite that the photoinitiator is a radical photoinitiator.


In general, a simple epoxy resin having no (meth)acrylate group is different from its epoxy (meth)acrylate in physiochemical properties, and thus there is no motivation for those skilled in the art to convert the simple epoxy resin to its epoxy (meth)acrylate. The claimed sealant, which comprises as the essential ingredients an epoxy (meth)acrylate of resorcinol polyglycidyl ether or the like, and a radical type photoinitiator, can provide the advantageous effects including excellence in adhesion strength and low liquid crystal contamination, which particularly with low liquid crystal contamination, cannot be predicted from Kitamura.

Accordingly, it is believed that the claims as amended are patentable over Kitamura et al.

Reconsideration and allowance are respectfully requested in

view of the foregoing.

Respectfully submitted,


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